

DATE : 18 May 1964
APPENDIX:

**STANDARD INSPECTION PROCEDURE
FOR
FLARE, FUSEE TYPE
SEQUENTIAL BURNING
RED, GREEN AND YELLOW
(1370-H00-7950)
(1370-H00-8786)
(1370-H00-8787)**

1. Technical:

This item consists of three separate, modified, railroad-type fusee flares that may be utilized in a one, two, or maximum three-unit sectionalized assembly for drop zone authentication. The sequential burning time varies from approximately 10 minutes for one section through as much as 20 for two and 30 minutes for all three sections. Each section has an igniter in its base which provides for the chain ignition of the next section if two or three sections are used. The flares are available in unit packs of three sections in the following colors:

RED, GREEN, or YELLOW

The flare sections may be easily and rapidly assembled end-to-end by pulling the cloth tab of the first section upwards to remove the protective cap and inserting this exposed top into the adjustable plastic sleeve at the base of another section. The resultant assembly, in turn, is inserted into a special base mount provided for this purpose. The base mount must be placed in the ground at a slight angle to assure complete burning and to prevent a chimneying effect.

The complete unit, including flares, sleeves, and base mount, is first sealed within foil, vaporproof barrier and then placed in a cylindrical fiber container having metal ends.

Flare components are:

3 section, each 8½ inches long with 10 minute burning time
2 plastic sleeves
1 plastic mounting base

2. Samples Required:

The number of samples required to represent a lot is as follows:

For Classification Test-----15 (45 sections)
For Confirmation Test-----As Directed

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3. Selection of Samples:

The samples will be randomly selected in accordance with normal sampling practices except that 5 each may be taken from each of 3 wooden boxes.

4. Preparation of Samples:

a. Sample sections will be numbered 1 through 45 and such numbers will be maintained throughout actual testing.

b. Samples will receive the preparation required for each of the following phases:

(1) Phase I - Burning time, burning quality and ignition transfer. Sample sections 1 through 21 will be tested in this phase with no preparation.

(2) Phase II - Spontaneous ignition test. Sample sections 22 through 33 will be exposed continuously to a temperature of 70° C, plus or minus 5° C (158° F ± 9°F) for 72 hours and then tested as soon as possible thereafter.

(3) Phase III - Submersion test. Sample sections 34 through 45 will be tested in this phase with no preparation.

5. Visual Inspection:

All samples will be given a careful visual inspection covering the following points:

a. Suitability of inner and outer packing in regard to withstanding additional handling and storage.

b. Sterility.

c. Missing or damaged components which would preclude use of the item for its intended purpose.

6. Procedure for Function Test:

a. Phase I - Each sample will be assembled into 3 section flares and ignited by removing the paper covering over the cap with the aid of the tear strip, and striking the match head with the striking composition on the outer surface of the cap. The flare will then be placed in an inclined position in the ground or in a holder and allowed to burn out.

b. Phase II -

(1) Each sample section will be removed from the temperature conditioning oven and observed to determine if spontaneous ignition has occurred due to the elevated temperature.

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(2) Each sample section which did not ignite spontaneously will be ignited separately and placed in an inclined position in the ground or in a holder and allowed to burn out.

c. Phase III - Each sample section will be ignited separately and after burning in air for approximately 5 seconds or until definite flare color is established, will be submerged in water in a vertical position with head down. After 2 minutes the samples will be removed from the water, placed as in b above, and allowed to burn out if still burning.

7. Observations:

a. Phase I.

- (1) Fails to ignite.
- (2) Color and intensity of illuminant.
- (3) Burning time in minutes and seconds.
- (4) Ignition transfer from 1 section to another.

b. Phase II.

- (1) Fails to ignite.
- (2) Evidence of spontaneous ignition.
- (3) Color and intensity.
- (4) Burning time.

c. Phase III.

- (1) Fails to ignite.
- (2) Color and intensity.
- (3) Fails to burn two minutes under water.
- (4) Fails to continue burning to complete consumption.

8. Classification of Defects:

Defects observed during visual inspection and function test will be classified in accordance with paragraphs 9 and 10. Any defects found, which are not listed, will be reported in detail along with the senior ordnance officer's recommendations as to classification.

9. Non-Functional Defects:

a. Critical: Item not sterile

b. Major: None

c. Minor:

- (1) Missing bonnet on cap.
- (2) Excessively loose or missing spike.
- (3) Torn or missing tear strip.
- (4) Body tube damaged.
- (5) Instruction sheet missing.

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10. Functional Defects:

a. Critical:

- (1) Spontaneous ignition of any flare section.
- (2) Improper flare color. (Different from physical color)

b. Major:

- (1) Failure to ignite.
- (2) Fails to transfer ignition from one section to another. Phase I.
- (3) Chimney in such a manner as to materially obscure the flare.
- (4) Burning time of 7 minutes or less for each section phase I & II.
- (5) Burning time of 15 minutes or more for each section phase I & II.
- (6) Fails to burn 2 minutes under water. Phase III.

c. Minor:

- (1) Burning time between 7 and 8 minutes per section. Phase I & II.
- (2) Burning time between 13 and 15 minutes per section. Phase I & II.

(Note acceptable burning time is between 8 and 13 minutes)

11. Grading:

a. Non-functional grades will be established in accordance with the following:

- (1) Grade D - A lot will be classified grade D if critical defect is observed.
- (2) Subgrade 1 - A lot having not more than 3 major defectives and not more than 5 minor defectives in the 45 sample sections inspected will be classified Subgrade 1.
- (3) Subgrade 2 - A lot not meeting the requirements for Subgrade 1 but having not more than 6 major defectives and not more than 11 minor defectives in 45 samples will be classified Subgrade 2.
- (4) Subgrade 3 - A lot not meeting the requirements for Subgrades 1 or 2 will be classified Subgrade 3.

b. Functional grades will be established in accordance with the following:

- (1) Grade D - A lot will be classified Grade D if 1 critical defect is observed.
- (2) Subgrade A - A lot having not more than 1 major defective and not more than 1 minor defective in each of the three phases will be classified Subgrade A.
- (3) Subgrade B - A lot not meeting the requirements for Subgrade A and having not more than 2 major defectives and not more than 4 minor defectives in each of the three phases will be classified Subgrade B.

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(4) Subgrade C - A lot not meeting the requirements for Subgrade A or B will be Subgrade C.

12. Classification for Shipping and Storage:

Shipping Nomenclature-----	Fusee, Railway
ICC Nomenclature-----	Railway Fusees - Handle Carefully - Keep Fire Away
ICC Class-----	C
Explosive Class-----	2
Storage Compatibility Group-----	N
Coast Guard Class-----	II-C

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ROUTING AND RECORD SHEET

SUBJECT: (Optional)

S.I.P. for Flare, Fusee Type, Sequential Burning

FROM:	EXTENSION	NO.	
		DATE	
TO: (Officer designation, room number, and building)	RECEIVED	FORWARDED	OFFICER'S INITIALS
OL/SD/OAMB			
1. C/TSD/OA/SDB	20/1 5/64	22/5/64	EW/H
2.			
3.			
4.			
5.			
6. OL/SD/OAMB 1007 Qtrs Eye			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			

19 May 1964

COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)

The attached is being forwarded for your review, comments, and/or approval. Retain a copy for your file and return the original to this office for finalization.

To 6: Approved as written.
EW/H

Jan in line to
prep for w/ opt. 1
Ans
SMA to his Edw